DISCUSSION OF THE AMENDMENT

Claim 1 has been amended by incorporating the subject matter of Claim 7 therein; Claim 7 has been canceled. Claims 9-11 have each been amended into independent form.

No new matter has been added by the above amendment. With entry thereof, Claims 1-6 and 8-12 will be pending in the application.

REMARKS

The rejections under 35 U.S.C. § 102(b) of Claims 1-5 and 12 as clearly anticipated by U.S. Patent No. 5,242,622 (Boutin et al), and of Claims 1, 4-6, 8 and 12 as anticipated by JP 61-77794 (Genshi), are respectfully traversed. Claims 1-6, 8 and 12 now contain the limitations of Claim 7, not subject to these rejections and indicated as allowable. Accordingly, it is respectfully requested that the rejections over Boutin et al or Genshi be withdrawn.

Applicants gratefully acknowledge the Examiner's indication of allowability of Claims

7 and 9-11. The claims are now limited to this subject matter. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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IN THE CLAIMS

--1. (Twice Amended) Process for manufacturing a neutron absorbent material, said material being a composite material containing boron carbide and hafnium, comprising the following steps:

- adding hafnium powder to a powder of boron carbide,

- mixing the boron carbide powder and the hafnium powder such as to obtain a homogeneous mixture, and

- sintering the homogeneous mixture at sufficient sintering pressure and temperature to obtain a composite material,

wherein the sintering pressure is applied before the temperature of the homogeneous mixture of the powders reaches the sinter reaction temperature of said mixture, and

wherein the mixture of boron carbide and hafnium powders is made by applying ultrasound to a paste containing said powders dispersed in a dispersion liquid.

7. (Canceled)

9. (Twice amended) Process for manufacturing a neutron absorbent material, said material being a composite material containing boron carbide and hafnium, comprising the following steps:

- adding hafnium powder to a powder of boron carbide,

- mixing the boron carbide powder and the hafnium powder such as to obtain a homogeneous mixture, and

- sintering the homogeneous mixture at sufficient sintering pressure and temperature to obtain a composite material,

wherein the sintering pressure is applied before the temperature of the homogeneous mixture of the powders reaches the sinter reaction temperature of said mixture [Process according to claim 1], in which the homogeneous mixture is sintered in a graphite mould lined with a graphite sheet.

10. (Twice amended) Process for manufacturing a neutron absorbent material, said material being a composite material containing boron carbide and hafnium, comprising the following steps:

- adding hafnium powder to a powder of boron carbide,

- mixing the boron carbide powder and the hafnium powder such as to obtain a homogeneous mixture, and

- sintering the homogeneous mixture at sufficient sintering pressure and temperature to obtain a composite material,

wherein the sintering pressure is applied before the temperature of the homogeneous mixture of the powders reaches the sinter reaction temperature of said mixture [Process according to claim 1], in which the mixture is sintered at a temperature of approximately 1800°C to 2100°C, at a pressure of around 70 to 110 MPa for a period of approximately 15 to 90 minutes.

11. (Twice amended) Process for manufacturing a neutron absorbent material, said material being a composite material containing boron carbide and hafnium, comprising the following steps:

- adding hafnium powder to a powder of boron carbide,

- mixing the boron carbide powder and the hafnium powder such as to obtain a homogeneous mixture, and

- sintering the homogeneous mixture at sufficient sintering pressure and temperature to obtain a composite material,

wherein the sintering pressure is applied before the temperature of the homogeneous mixture of the powders reaches the sinter reaction temperature of said mixture [Process according to claim 1], in which the mixture is sintered at a temperature of approximately 2000°C, at a pressure of around 92 MPa for a period of approximately 1 hour.